



Review of The Claude Glass: Use and Meaning of the Black Mirror in Western Art

Citation

Canales, Jimena. 2006. Review of The claude glass: Use and meaning of the black mirror in western art, by Arnaud Maillet. Isis 97: 149-150.

Published Version

<http://dx.doi.org/10.1086/504531>

Permanent link

<http://nrs.harvard.edu/urn-3:HUL.InstRepos:3353755>

Terms of Use

This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Other Posted Material, as set forth at <http://nrs.harvard.edu/urn-3:HUL.InstRepos:dash.current.terms-of-use#LAA>

Share Your Story

The Harvard community has made this article openly available.
Please share how this access benefits you. [Submit a story](#).

[Accessibility](#)

sense of planetary theory and dynamics. In keeping with the title of his book, Linton has little to say about techniques of observation; nor is there any attention to physical astronomy or astrophysics.

Linton's topics include the development of geometrical planetary theory (Eudoxus, Ptolemy, Copernicus, Kepler), planetary tables, Newtonian gravitation theory, celestial mechanics, perturbation theory, the stability of the solar system, and the modification of planetary theory brought about by general relativity. These are all subjects with deep mathematical roots, and it is not an easy task to write about them at once accurately and engagingly. Linton's approach to the material is well chosen. There is little mathematical development or argument in the book. Rather, the mathematical results are displayed and discussed in plain language. Clear discussion of mathematical formulas in plain English is a difficult art, and Linton has achieved a high order of conciseness and clarity. Controversial topics—for example, the competing claims of Lorentz, Poincaré, and Einstein over credit for relativity—are discussed dispassionately and evenhandedly. The prehistory of relativity theory is particularly well treated. Since we are now used to hearing cosmologists attempt to place constraints on the theoretical possibilities open to particle physicists, and vice versa, it was particularly amusing to read George Darwin's 1902 comment, about a meeting in Göttingen, that "the greater part of one day's discussion was devoted to the astronomical results which would follow from the new theory of electrons" (p. 456).

In a work of such scope, the author naturally has had to rely on the secondary literature, which he has surveyed with admirable thoroughness. Readers who want a detailed technical account of some development in mathematical astronomy will often be able to find an entrée to the primary as well as the secondary literature in Linton's book. However, the bibliography is restricted almost entirely to English-language publications, which means that important works have sometimes been overlooked. Thus there is no mention of Michel-Pierre Lerner's masterful history of the planetary orbs (*Le monde des spheres*, 2 vols. [Les Belles Lettres, 1996]). And the author has not always made use of the most recent work. For example, in the discussion of Ptolemy's star catalogue there are no references to work published after 1998.

A work of such scope will also inevitably entail a few slips. Thus Linton says that the title of Ptolemy's *Almagest* is a medieval Latin corrup-

tion of the Arabic word for "the greatest" (p. 61); *al-megiste* is actually the Arabic definite article attached to the Greek word for "greatest." The figure on page 91 showing Thabit ibn Qurra's theory of the trepidation of the equinoxes misrepresents Thabit's theory. On page 452 Linton says, "George Fitzgerald suggested in *The Ether and the Earth's Atmosphere* (1889)" that motion through the ether might produce a longitudinal contraction of objects—thus giving the impression that there was a book of this title. Fitzgerald's suggestion was actually presented in the form of a short note in *Science* (G. F. Fitzgerald, "The Ether and the Earth's Atmosphere," *Science*, 1889, 13:390).

Still, the merits of the book are considerable and easily outweigh the minor inaccuracies. Particularly strong are the chapters devoted to the eighteenth- and nineteenth-century development of celestial mechanics. This is a technically difficult, and some would say dry, subject. But great things were at stake, including the validity of Newton's law of gravitation and the stability of the solar system. Linton displays a knack for clear explanation of the most important developments and for making them matter to the reader. I also thoroughly enjoyed the section of the book's final chapter devoted to Einstein's steps toward the new theory of gravity, from the equivalence principle of 1907 to the final equations of 1915. Linton does as nice a job as one could wish of explaining what was at stake, as well as what went right and what went wrong along the way.

Within the limitations of the survey genre, Linton has done an excellent job. I came across something new to me in every chapter and was constantly impressed by the clarity of Linton's exposition. Professional astronomers are likely to find the book engaging. Professional historians of astronomy will find it an indispensable resource.

JAMES EVANS

Arnaud Maillet. *The Claude Glass: Use and Meaning of the Black Mirror in Western Art.* Translated by **Jeff Fort**. 300 pp., illus., table, index. New York: Zone Books, 2004. \$26.95 (cloth).

If you have never heard of the Claude glass, Arnaud Maillet's book might possibly lead you to believe that this largely forgotten optical device changed the world. This feat is accomplished by expanding the definition of the Claude mirror beyond the small, tinted convex mirror used as an aid in painting. Maillet's topic encompasses a

general array of references to mirrors—so long as they differ from traditional flat silvered mirrors in their shape and tint. Using the “lowest common denominator” definition of “convex tinted mirror,” the author takes the reader on a mind-boggling journey across time and space (p. 15).

Let me list a few of his examples: Pliny the Elder’s anecdote in which a tigress is tricked by a convex mirror; Albrecht Dürer’s woodcut *Vanity and the Devil*, showing the reflection of “the devil’s ass” in a convex mirror; catoptromancy—divination by means of mirrors—where necromancers use black mirrors to conjure the dead; “the lustrous convexity of a woman’s head” resembling a mirror (p. 70); Aztec obsidian mirrors and their association with the divinity Tezcatlipoca; Saint Paul’s famous “through a glass, darkly” expression; a citation of the black mirror by Truman Capote; the black mirror in modern art (Roy Lichtenstein, Rainer Müllet, Gerhard Richter, François Perrodin); Subcomandante Marcos’s musings about revolution and dark mirrors; autoeroticism (if only by virtue of the fact that the mirror is held “with only one hand” [p. 174]); and, finally, the black mirror in the Internet (this last accompanied by warnings about the phrase as an entry into the world of hard-core porn).

These pell-mell references lead Maillet to form a few very broad and very schematic conclusions. He sees the development of these mirrors as parallel to the emergence of the unconscious (“We see, then, how the notion of the unconscious emerges partly in conjunction with the black mirror” [p. 63]), as part of the history of blindness (“The history of the black mirror is also the history of a blindness” [p. 176]), and as an essential tool of modernity (“This object is thus inseparable from modernity” [p. 152]).

Hidden among these claims is a very careful study where Maillet narrows his focus to Claude glasses and mirrors proper. These two instruments, often confused and classed together, are tinted glass filters and convex mirrors, respectively. They owe their name to the French Baroque painter Claude Lorrain (1602–1682), known for his sober landscapes and deeply admired in eighteenth-century England. The Claude mirror had its golden age at the end of the eighteenth and beginning of the nineteenth centuries, when it was commonly used by professional and amateur painters to draw in the manner of Lorrain. Alongside this careful account of the history of the Claude mirror, Maillet provides an inventory of existing exemplars in museums and private collections.

Maillet does not always strive for coherence, denouncing a prevalent “hyper-specialization in every branch of study” (p. 28). There is similarly no intent to produce a strict chronological narrative or geographical treatment, and the author guides the reader into frequent detours.

The most analytical part of the book, which will perhaps be of most interest to historians of science, is Chapter 12, “Limits on the Use of the Claude Mirror.” This chapter turns to Jonathan Crary’s thesis in *Techniques of the Observer* (MIT, 1990) and sees in the history of the Claude glass further evidence of a rupture in scopic regimes occurring sometime between 1810 and 1840. The turn from geometric to physiological optics noted by Crary coincided with the apogee of the Claude mirror. This change was evidenced in the widespread use of the Claude mirror as a tool for turning away from the nature-as-is goals of the Dutch school of painting. Further support of the role played by the Claude mirror in nineteenth-century debates in the arts comes from John Ruskin and Pre-Raphaelite painters, who disdained its use and for whom direct, unmediated experience was essential. Via Crary’s thesis, Maillet ties the history of the Claude glass to some of the central themes of historical epistemology.

Maillet offers an important contribution to the history of the material culture of art and science. Thanks to his full-length treatment of the Claude mirror, this understudied instrument will perhaps one day obtain a place in art and science histories alongside the camera obscura, the camera lucida, and the graphic telescope.

JIMENA CANALES

■ Antiquity

Paul U. Unschuld. *Huang Di nei jing su wen: Nature, Knowledge, Imagery in an Ancient Chinese Medical Text.* xii + 520 pp., illus., bibl., index. Berkeley/Los Angeles/London: University of California Press, 2003. \$75 (cloth).

The *Huang Di nei jing su wen* (translated in this book as “Huang Di’s Inner Classic, Basic Questions”) is a foundational work of Chinese medicine. Along with its companion volume, the *Ling shu*, the *Su wen* served for centuries as an authoritative fount of revealed knowledge that physicians used to explain the normal and pathological functions of the body. But the *Su wen* is as vexing as it is important. The received version of this work was never a coherent statement of doctrine but, rather, a “compilation of fragmentary texts” (p. 24) originally written by unknown